SERVICE MANUAL & PARTS LIST (without price)

LABEL PRINTER

KL-8200(ZX-579)

OCT. 1996

KL-8200

INDEX

CASIO®

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1. SPECIFICATIONS

Model: **KL-8200**

Input

Keyboard layout: Typewriter (QWERTY)

Character Types

Alpha (English and other languages): 52 (A ~ Z, a ~ z), 99 (Á, ß, Ç, Ż etc.)
Numbers: 10
Symbols/Greek and Russian characters: 306
Illustrations: 50

Display

Type: Liquid crystal display
Columns: 12
Lines: 4

Printing

Type: Thermal transfer
Speed: Approximately 10 mm/second
Width: 4 mm (6 mm tape); 8 mm (9 mm tape); 10 mm (12 mm tape); 16 mm (18/24 mm tape)
Character matrix: 48 × 48 dots
Character fonts: New Sans-serif, New Sans-Serif Italic, New Sans-serif Rounded, New Roman, New Roman Italic, Oldface, Oldface Italic, Courier, Logostyle, Richstroke, Stencil, Bold Script, Black Letter
Character spacing: NONE, NARROW, MEDIUM, WIDE
Tape length: 0.0 cm to 99.9 cm
Block length: 0.0 cm to 99.9 cm
Character effects: Shade, underline, box
Character styles: Normal, bold, outline, shadow, raised
Character sizes: 54 from 1/2 × 1/2 to 5 × 8
Number of lines: 6 mm tape: 2 lines
9 mm tape: 4 lines
12 mm tape: 5 lines
18 mm or 24 mm tape: 8 lines
Frames: 55 types
Preset formats: 74 types
Preset phrases: 10 types

Memory

Text: Up to 2,500 characters

General

Power supply: AD-A12140 AC adaptor
Memory back-up: One CR2032 lithium battery
Battery life: Approximately 1 year
Power consumption: 11 W
Auto power off: Approximately six minutes after last key operation
Ambient temperature: 10 ˚C to 35 ˚C (50 ˚F to 95 ˚F)
Dimensions: 54.6 (H) x 196 (W) x 184.3 (D) mm
(2 1/8" (H) x 7 23/32" (W) x 7 1/4" (D))
Weight: 630 g (22 oz.) (including battery)

2. MEASUREMENT

1. DC POWER SOURCE

DISPLAY	MAX	50 mA	BACK UP (OFF)	MAX	10 μA
	TYP	20 mA			
POWER OFF	MAX	25 μA	PRINTING	MAX	1000 mA
				TYP	850 mA

2. CHECK VOLTAGE

OFF VOLTAGE	4.5 V ± 2.5 %	LOW BATTERY VOLTAGE	2.5 V ± 2.5 %

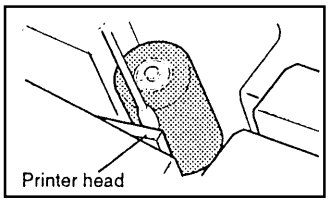
(**Note:** Test voltage: DC 12 V ± 2 %)

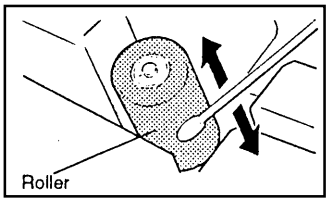
3. CLEANING THE PRINTER HEAD AND ROLLER

A dirty printer head and roller can result in poor printing quality. If you have problems with print quality, use the following procedure to clean the printer head and roller.

To clean the printer head and roller

1. Make sure the label printer is turned off.
2. Press the tape cartridge compartment cover release and open the compartment cover.
3. Remove the tape cartridge.
4. Use a cotton swab dipped in alcohol to clean the printer head and roller as shown in the illustration.





5. Replace the tape cartridge and close the compartment cover.

4. RESET OPERATION

Resetting initialize the memory
You should reset the memory of the label printer before using it for the first time, after you have not used it for a long time, or if nothing happens when you turn power on.

Important!
Resetting label printer memory clears its memory of all input data.

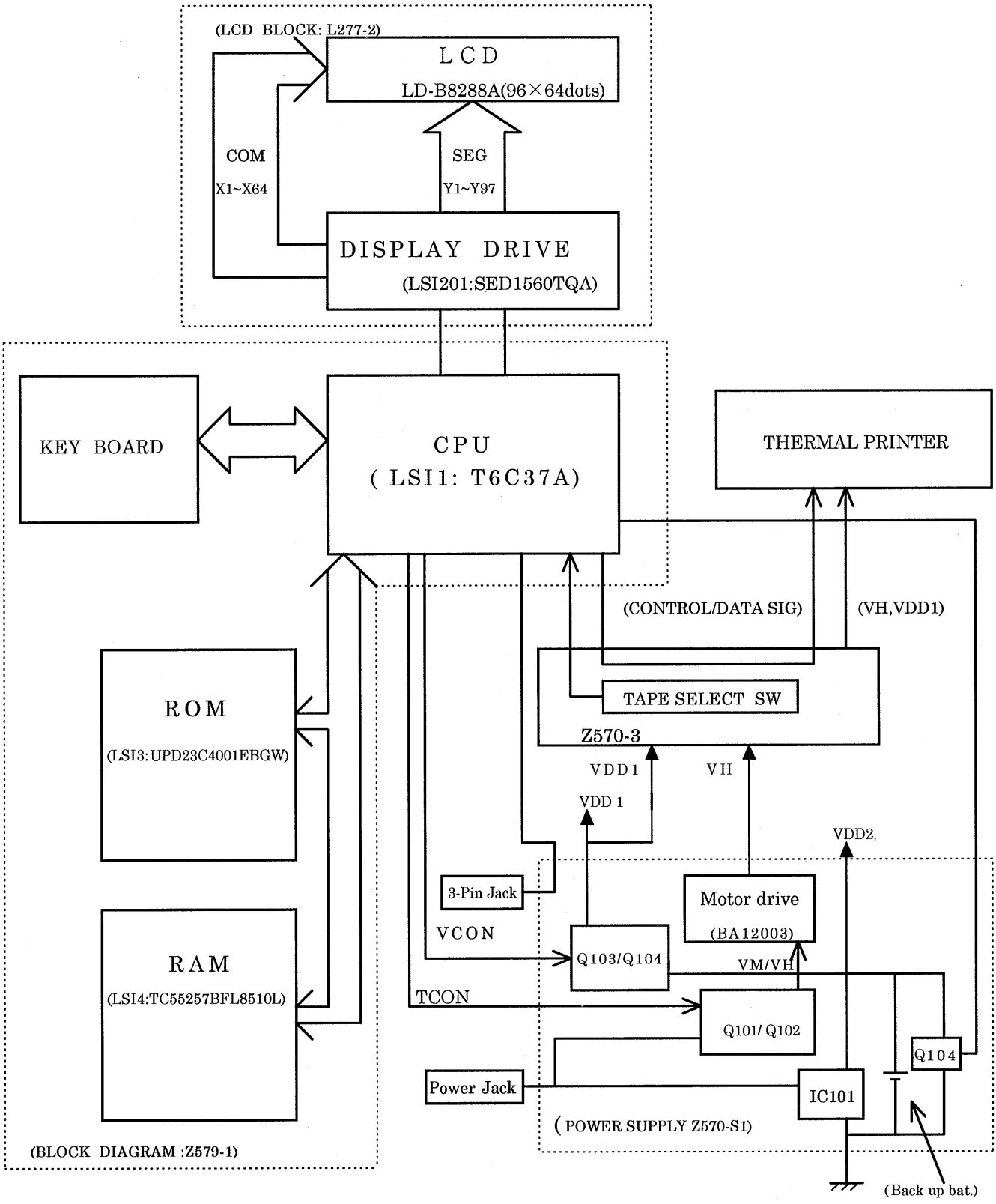
To reset the memory

1. Make sure that label printer power is off.
2. While holding down the **PRINT** and **ESC** key, press ON to turn power on.
3. Press **SET** to initialize the label printer or **ESC** to abort the operation without initializing anything.
   - The following are the initial setting of the label printer whenever you turn it power on or reset the unit.

Item	Power on	Reset
Display	Cleared	Cleared
Memory	Retained	Cleared
User Characters	Retained	Cleared
Calendar Week Start Day	Sunday	Sunday
Black Alignment	Left	Left
Font	Retained	Sans-Serif
Insert/Overwriter	Insert	Insert
Contrast (32 levels)	Retained	Level 15
Density (5 levels)	Retained	Level 3
Sound	On	On
Language	Retained	English
cm/inch	Retained	cm

Item	Power on	Reset
Horz/Vert	Horizontal	Horizontal
Text Alignment	Left	Left
Justification	Justified	Justified
Character Spacing	Narrow	Narrow
Block Length	Auto	Auto
Mirror Printing	Normal	Normal
Proportional Spacing	On	On
Smoothing	On	On
Block Spacing	Narrow	Narrow
Auto Feed	Long	Long
Tape Length	Auto	Auto

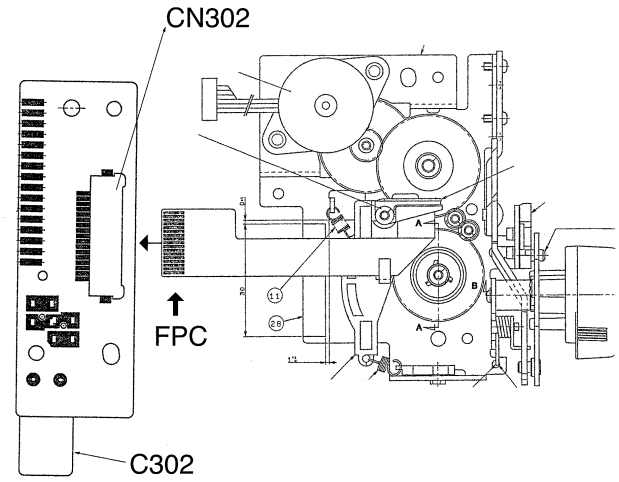
5. BLOCK DIAGRAM



6. PRECAUTIONS

To prevent damage of the thermal head caused by static electricity when assembling the chassis ass'y into the unit, the following steps must be followed;

1. Turn the power switch off.
2. Discharge the capacitor C302 on the PCBZ570-3.
3. Connect the FPC of chassis ass'y into a connector CN301 of PCBZ570-3.
4. Assemble the chassis ass'y.
5. Turn the power switch on.

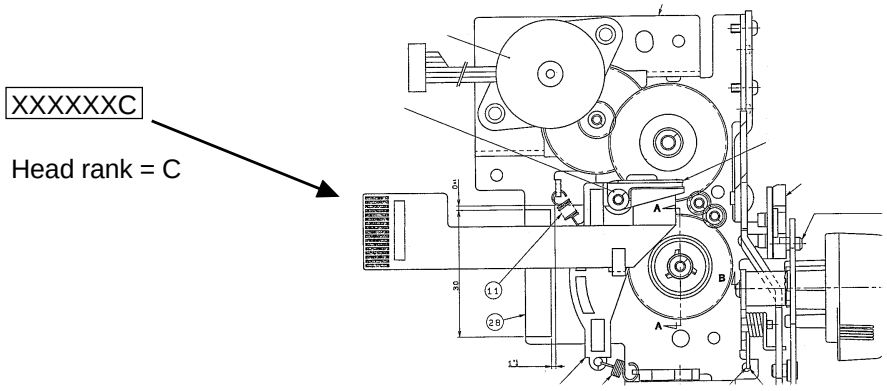


Chassis ass'y

Setting the thermal head rank

Set the thermal head rank with pads RNK1 and RNK2 on the PCBZ579-1 according to the following conditions when replacing the chassis ass'y or thermal head. The head rank is indicated on FPC as following.

Head rank A: RNK1 = SHORT, RNK2 = OPEN
Head rank B: RNK1 = OPEN, RNK2 = SHORT
Head rank C: RNK1 = OPEN, RNK2 = OPEN
Head rank D: RNK1 = SHORT, RNK2 = SHORT



7. LSI PIN FUNCTION

CPU (T6C37): LSI1

No	Name	I / O	Function
1	RD	O	Read signal for memory devices
2	WR	O	Write signal for memory devices
3	VDD	I	+5 V source
4~15, 17~25	A0~A11, EA12~EA20	O	Address bus
16	GND	I	Ground (0 V) source
26	VDD	I	+5 V source
27	RC1	O	Chip enable signal for ROM
29	RC3	O	Chip enable signal for RAM
31	RNK1	I	Thermal head rank setting
32	RNK2	I	Thermal head rank setting
33	PSTB	O	Strobe signal for thermal head
34	LTCH	O	Latch signal for thermal head
35	SO	O	Data
36	PCLK	O	Clock pulse for thermal head
37	VDD	I	+5 V source
38	XIN	I	Main clock input
39	XOUT	O	Main clock output
40	GND	I	Ground (0 V) source
41~44	MT1~MT4	O	Motor drive signal
45	TCON	O	Control signal for voltage VH/VM
46~52	VCK0~VCK6	I	Voltage detecting signal for low battery
53	RSI	I	Reset delay input
54	RSO	O	Reset delay output
55	VDE	I	Reset signal input
56	VCON	O	Control signal for voltage VDD1
57	PON	I	Power on signal from power switch
58	POFF	I	Power off signal from power switch
59~66	KI0~KI7	I	Key input signal
67~75	KO0~KO8	O	Key common signal
79	DPW	I	Voltage detecting signal for forced power off
80	TX	O	Serial data output.
81	RX	I	Serial data input.
82	PCON	O	Control signal for printer
83~85	TAP1~TAP3	I	Tape cartridge selecting signal. Connected to GND
86	LCS	O	Chip enable signal for LCD driver
87	RSTL	O	Reset signal for LCD driver
88	CRES	I	Reset timing signal input. Connected to reset pad
89, 90	DSW, GND	—	Connected to GND
91	NBZ	O	Buzzer signal output
92	BZ	O	Buzzer signal output
93~100	CD0~CD7	I/O	Data bus

8. DIAGNOSTIC PROGRAM

Note: Make the reset operation after RAM check, because the RAM check break the data stored in RAM.

Check item	Operation	Display	Note
(BOOT)	Press ON while pressing keys, SPACE + [P] + [Z]	0:ALL 1:RAM 8:CP 2:LCD 3:KEY 9:VP 4:SW 5:PR1 6:COM 7:PR2	Main menu Whenever returning to the main menu there will be a beep sound.
RAM CHECK (1 RAM)	[1]		Beep With the beep the display becomes clear.
	(After a few seconds)	RAM 256KOK ROM 4MOK5890	To return to the main menu, press any key.
LCD CHECK (2 LCD)	[2]		Frame
	Any key		All dots
	Any key		Checker
	Any key		Reversed checker To return to the main menu, press any key.
KEY CHECK (3 KEY)	[3]	1	Press the key according to what is appeared on the LCD. Press any key after last key check to return to the main menu.

Check item	Operation	Display	Note
RANK CHECK (4 SW)	4	RANK C TAPE 18	Check the rank of the thermal head employed in the unit. (RANK = A ~ D) To return to the main menu, press any key.
PRINT CHECK-1 (5 PR1)	5	NOW PRINTING DATA1	Refer to the following figure-1. When finished printing it will return to the main menu.
PRINT CHECK-2 (6 COM)	6		To return to the main menu, press any key.
PRINT CHECK-2 (7 PR2)	7	NOW PRINTING CASIO COMPUT CASIO COMPUT CASIO COMPUT	Refer to the following figure-2. When finisned printing it will return to the main menu.
CP CHECK (8 CP)	Press 8 after plugging communication cable to communication jack and shorting TX and RX.		To return to the main menu, press any key.
VP CHECK (9 VP)	9	Vp ON 12 ⁄0.1V	TCON signal from CPU is H, voltage VP is applied to the thermal head and stepping motor. Adjust the voltage to be 12 V ± 0.1 V. When pressing any key VP turns off and will return to the main menu.
ALL ITEM CHECK (0 ALL)	0		The 9 check items are proceeded automatically by pressing any key, according to the following order. RAM---LCD---KEY---SW---PR1---COM---PR2---CP---VP

PR-1 (Normal printing result)

Figure-1

PR-2 (Normal printing result)

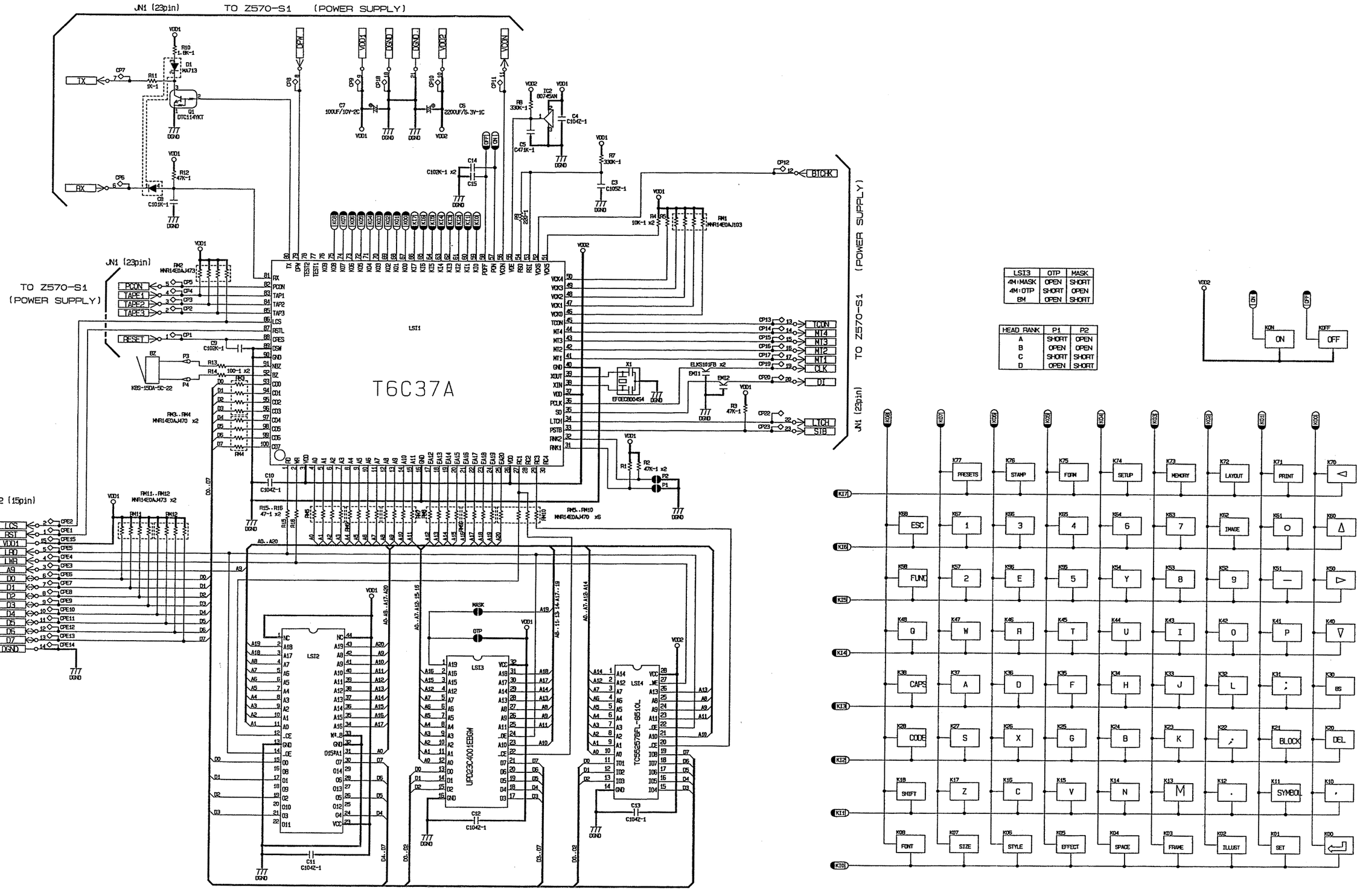
Figure-2

9. ERROR MESSAGES

Message	Cause and Recommended Action
SAME NAME ALREADY USED!	Name being assigned to a preset format is already used. Use a different name.
DATA ITEM NOT FOUND!	No match for characters specified for a search operation. Change to other characters or use sequential search.
TOO MANY LINES!	Too many lines to be printed. Reduce the number of lines or use a wider tape.
TOO MANY LINES TO FRAME!	Too many lines for printing with a frame. Reduce the number of lines or use a wider tape.
ODD NUMBER OF DIGITS! CANNOT PRINT	• Odd number of digits input for ITF bar code when a check digit is not being used. Add a 0 (zero) as the first digit and re-input. • Even number of digits input for ITF bar code when a check digit is being used. Add a 0 (zero) as the first digit and re-input.
NOT ENOUGH DIGITS! CANNOT PRINT	Bar code print printed does not have enough digits. Re-input with the proper number of digits.
RESET!	Memory has not been initialized yet. Perform the reset operation.
SEND ERROR!	Label printer was unable to receive data being sent from an external source. Check cable connections and parameter settings.
POWER OFF THEN LOAD A TAPE CAR-TRIDGE	Printing operation performed while the tape cartridge compartment is empty. Load a tape cartridge and try again.
TEXT DOES NOT FIT!	Text being printed does not fit within a fixed-length tape. Shorten the text or change the tape length.
TEXT DOES NOT FIT!	Text being printed with a frame does not fit within a fixed-length tape. Shorten the text or change the tape length.
DATA ERROR! RESET!	Print operation attempted when memory is not initialized. Perform the reset operation and try again.
DATA ERROR! RESET!	Memory data has been deleted or corrupted by battery replacement. Perform the reset operation.
DATA ERROR! RESET!	Text storage attempted when memory is not initialized. Perform the reset operation and try again.
NO DATA!	Recall or delete operation attempted while there is no more data in memory. Press SET to clear the error message.
TOO MANY BL!	Attempt to input a 16th block mark (only 15 are allowed). Delete block marks you don't need.
ILLEGAL CHARAC-TERS! CANNOT PRINT	• Invalid characters used in a bar code. Change to allowed characters. • Letter other than A, B, C, or D input for CODABAR bar code start code or end code. Use only the allowable characters.
MEMORY FULL!	Memory used for data communication is full. Reduce the amount of data being transferred. Memory used for storage is full. Delete data in memory that you no longer need.
NOT ENOUGH MEMORY!	Operation being attempted would cause memory used for storage to become full. To store more, delete data in memory that you no longer need.
BACK-UP BATTERY GETTING WEAK! PLEASE REPLACE IT!	Memory backup battery power is low. Replace the battery.
CANNOT COMBINE!	Recalling text into existing text results in more than 255 characters. Reduce the number of characters in existing text. Recall operation incorporating recalled text into existing text would result in more than 15 block marks. Reduce the number of block marks in the existing text and try again.
INPUT TEXT!	Attempt to register characters when no characters are input. Input characters and try again.

10. SCHEMATIC DIAGRAMS

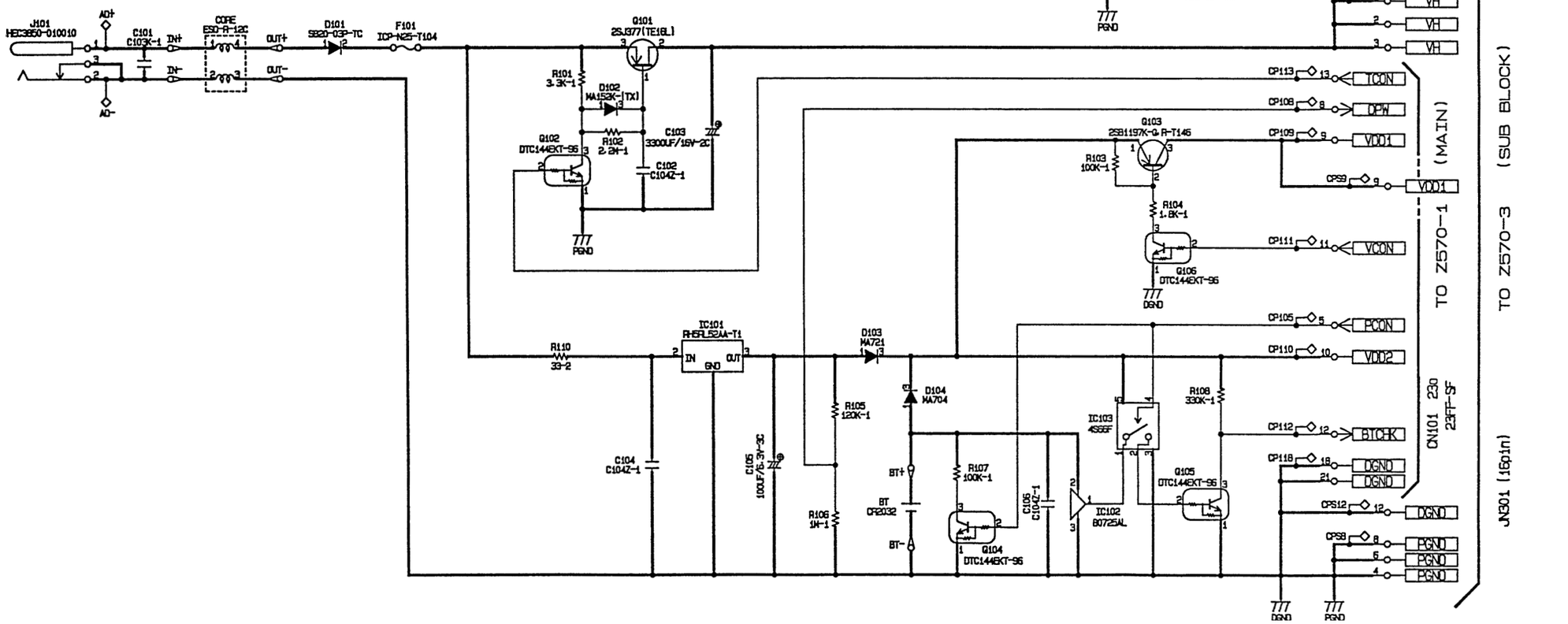
10-1. Main Block



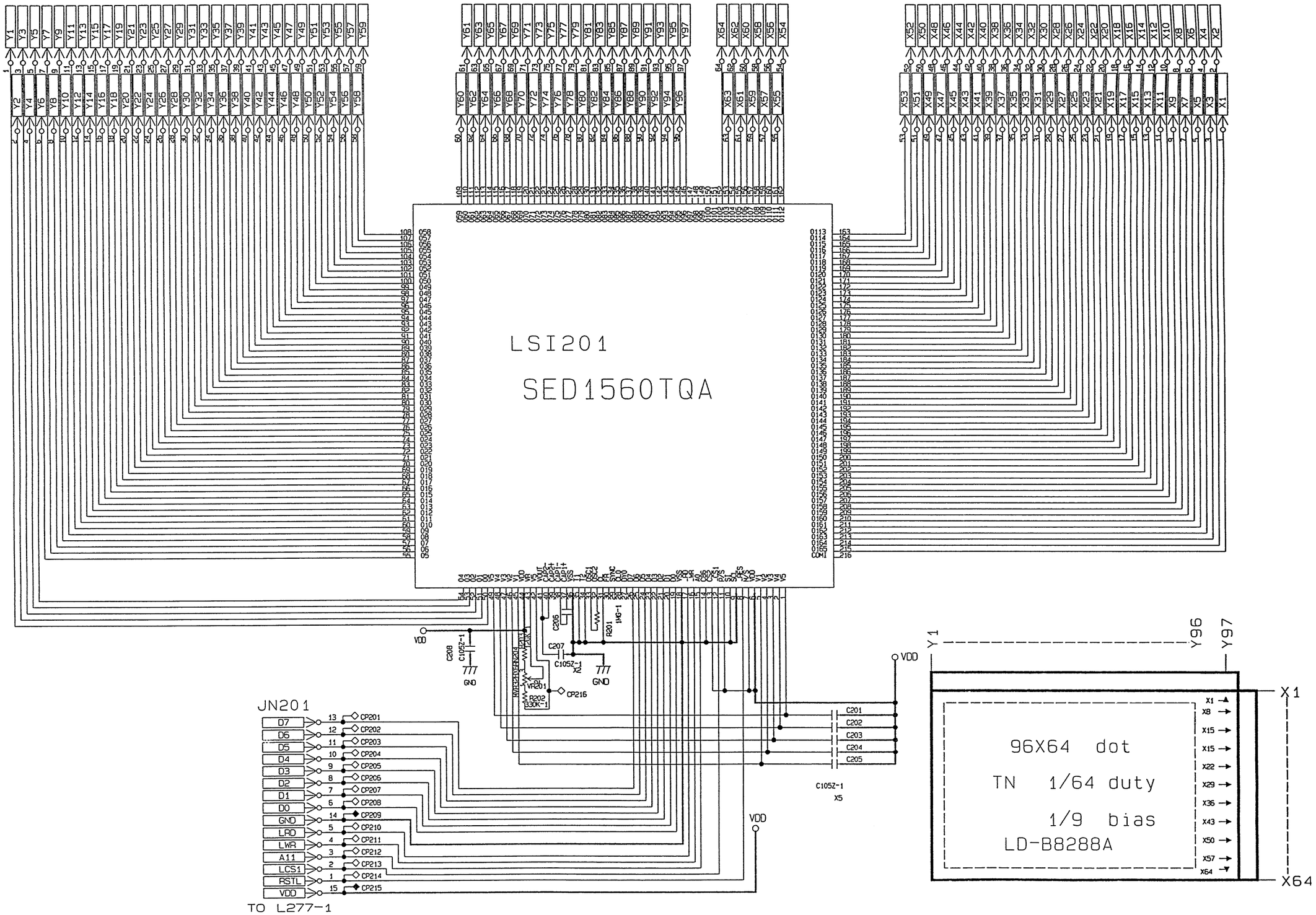
LSI3	OTP	MASK
4M:MASK	OPEN	SHORT
4M:OTP	SHORT	OPEN
8M	OPEN	SHORT

HEAD RANK	P1	P2
A	SHORT	OPEN
B	OPEN	OPEN
C	SHORT	SHORT
D	OPEN	SHORT

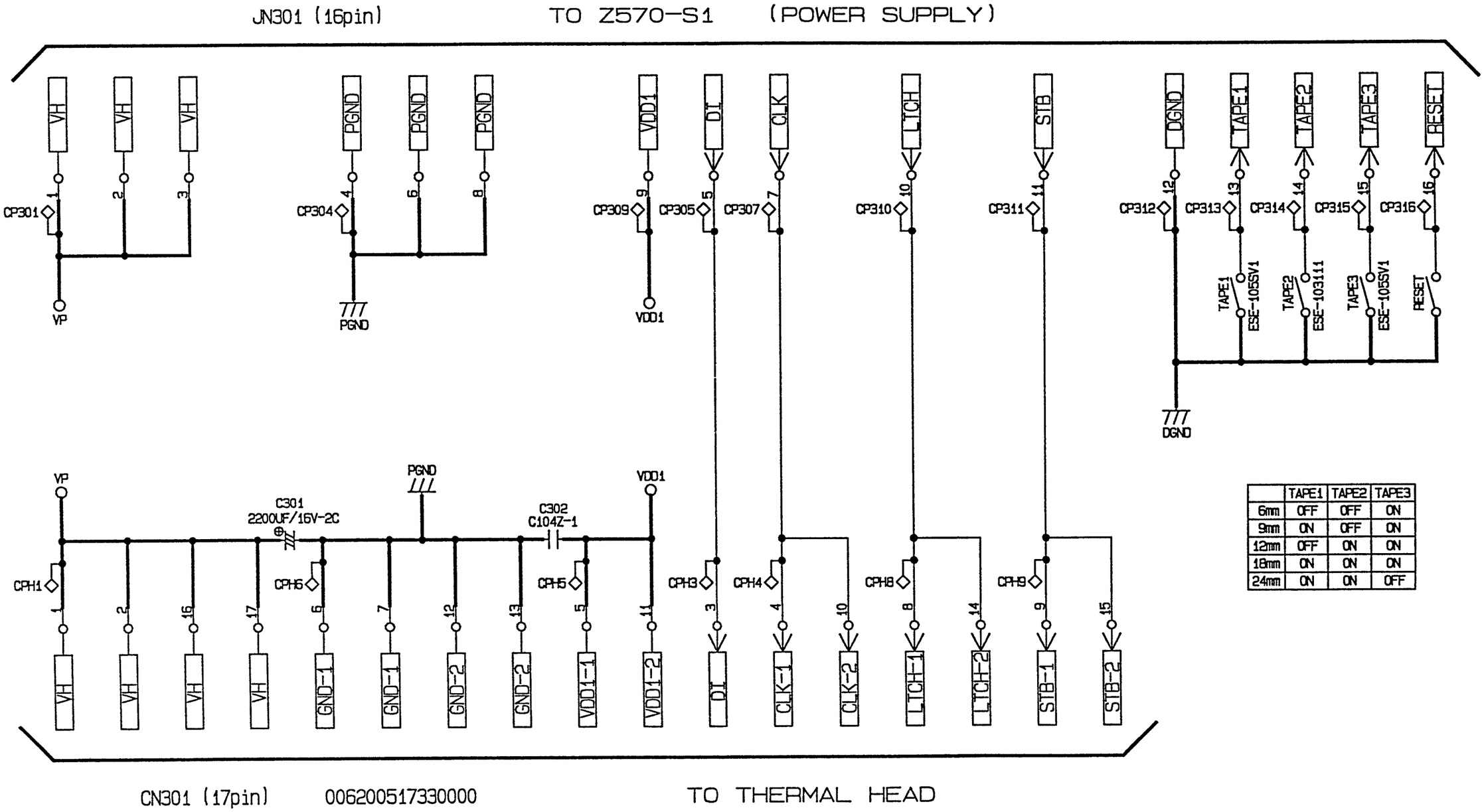
10-2. Power Supply



10-3. LCD Block



10-4. Sub Block



	TAPE1	TAPE2	TAPE3
6mm	OFF	OFF	ON
9mm	ON	OFF	ON
12mm	OFF	ON	ON
18mm	ON	ON	ON
24mm	ON	ON	OFF

11. PARTS LIST

N	Item	Code No.	Parts Name	Specification	Q	R
		COMPONENTS				
	1	6407 9150	W TAPE A-L277	A313217-1	1	B
	2	6390 0432	CAP V332	A310765B-1	1	B
N	3	6407 9010	CASSETTE COVER L-277	A110844-1	1	B
N	4	6407 9130	B COVER B-L277	A313211A-1	1	B
N	5	6418 8190	DP PAN A-Z579	A340266-4	1	B
N	6	6418 8200	DP PAN B-Z579	A340265-3	1	B
N	7	6407 9051	C FILM L277	A211298A-1	1	B
N	8	6407 9091	SPACER L277	A211315A-1	1	C
N	9	6405 2790	SW KEY A-L244	A413391-1	2	B
N	10	6407 9220	SW KEY B-L244	A413391-3	1	B
	11	3122 2520	BUZZER	KBS-15DA-5C-22	1	C
N	12	6407 9030	CASSETTE CASE L277	A110892-1	1	B
N	13	6407 9140	SLIDE SWITCH L277	A313213-1	2	C
N	14	6418 8292	UPPER CASE Z579	A110842B-5	1	C
N	15	6418 8301	RUBBER KEY Z579	A110845A-5	1	C
N	16	6413 9620	Z570-S1 ASS'Y	A240143E*1	1	B
N	17	6418 8170	Z570-3 ASS'Y	A340275*2	1	B
N	18	6413 9970	PC JOINER B-Z570	A440429-1	1	A
N	19	6418 8324	LOWER CASE Z579	A110843D-6	1	C
N	20	6329 7620	BATTERY SPRING A-G272	A33938-1	1	C
	21	6396 8870	BATTERY SPRING B-L531AA	C310675-1	1	C
	22	6408 9950	RUBBER FOOT L277	A414533-1	4	X
	23	6413 9570	CHASSIS ASS'Y	A140100D*1	1	A
		ZX570-1 PCB UNIT				
N	24	6413 9640	Z570-2 ASS'Y	A240146A*1	1	B
N	25	6418 8160	Z570-1 ASS'Y	A240142M*3	1	B
N	26	6407 9330	FFC JOINER	A414077-1	1	A
		ZX570-1 ASS'Y				
	LSI1	2012 0385	LSI	T6C37A	1	B
	LSI4	2010 9499	LSI	TC55257BFL-8510L	1	B
N	X1	2590 1995	CERAMIC OSCILLATOR	EF0EC8004S4	1	B
N	C6	2803 7870	ELECTROLYTIC CAPACITOR	RE2-6V222M-T4	1	B
	C7	2807 2315	ELECTROLYTIC CAPACITOR	RE3-10V101M-T2	1	B
N	LSI3	2012 5504	LSI	UPD23C4001EJGW-C64	1	B
	IC2	2105 2331	MOS-IC	S-80745AN-D9-T1	1	B
	Q1	2259 0959	CHIP DIGITAL TRANSISTOR	DTC114YKT-146	1	B
	D1	2390 0364	SCHOTTKY DIODE	MA713-TX	1	B
N	27	6408 3580	STRAND WIRE SUB ASS'Y	A414306*1	1	C
		The following electronic parts will be not supplied from CASIO.				
	R100		CHIP JUMPER	MCR10EZHJ000	1	
	R15~16		CHIP RESISTOR	MCR10EZHJ470	2	
	R13~14		CHIP RESISTOR	MCR10EZHJ101	2	
	R9		CHIP RESISTOR	MCR10EZHJ221	1	
	R11		CHIP RESISTOR	MCR10EZHJ102	1	
	R10		CHIP RESISTOR	MCR10EZHJ182	1	
	R4~5		CHIP RESISTOR	MCR10EZHJ103	2	
	R1~3R12		CHIP RESISTOR	MCR10EZHJ473	4	
	R7,R8		CHIP RESISTOR	MCR10EZHJ334	2	
	RM3,RM10		CHIP NETWORK RESISTOR	MNR14EOAJB470	8	

Notes: N – New parts
Q – Quantity used per unit
R – Rank

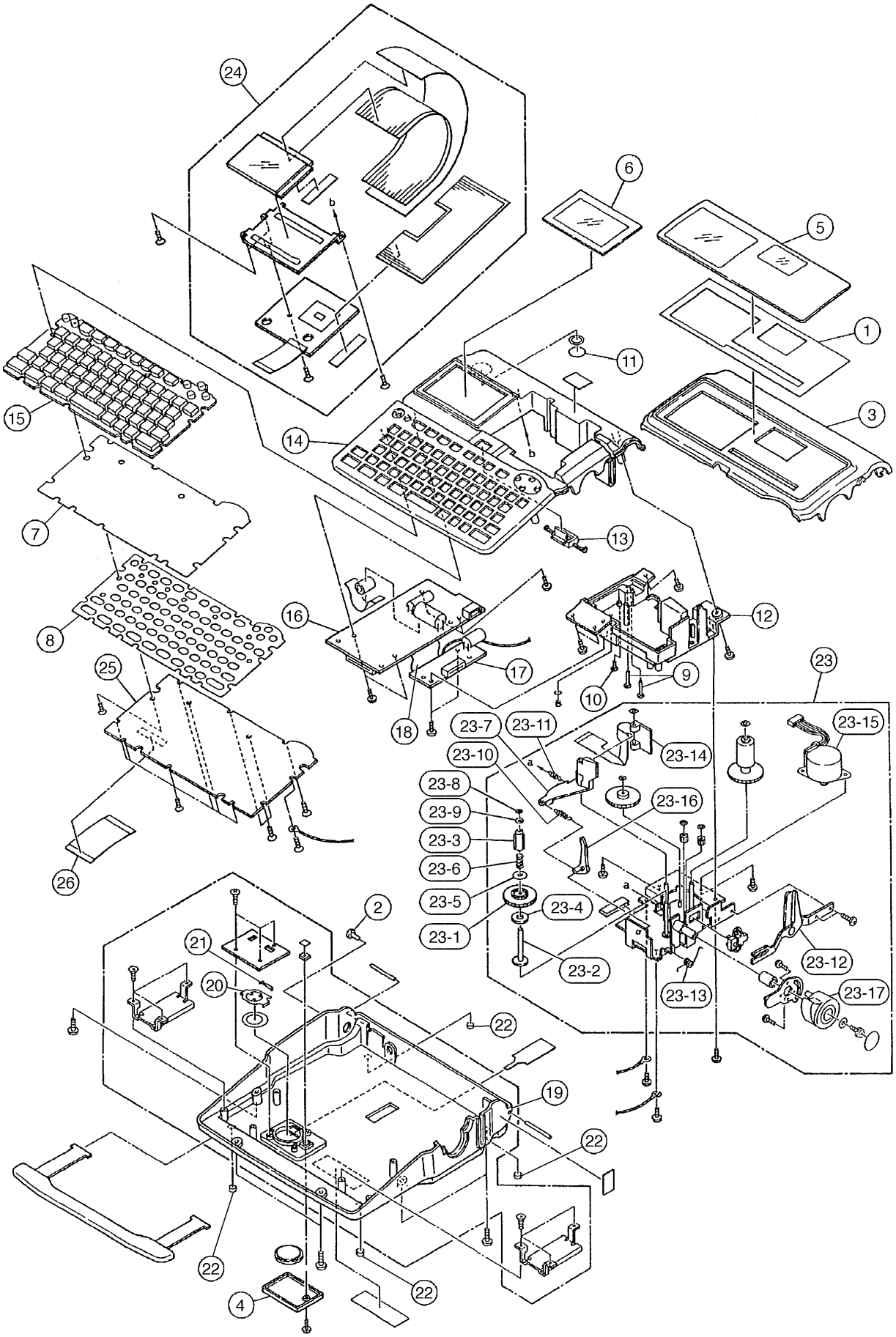
R – A : Essential
B : Stock recommended
C : Others
X : No stock recommended

N	Item	Code No.	Parts Name	Specification	Q	R
	RM1		CHIP NETWORK RESISTOR	MNR14EOAJB103	1	
	RM2,RM11~12		CHIP NETWORK RESISTOR	MNR14EOAJB473	3	
	C8		CHIP CONDENSER	MCH215SL101KK	1	
	C5		CHIP CONDENSER	MCH215C471KK	1	
	C9,C14~15		CHIP CONDENSER	MCH215C102KK	3	
	C4,C10~13		CHIP CONDENSER	MCH212F104ZK	5	
	EMI1,EMI2		CHIP EMI FILTER	ELKS101FB		
	C3		CHIP CONDENSER	MCH312F105ZP	1	
		ZX570-2 ASS'Y				
N	LSI201	2011 6881	LSI	SED1560TQA	1	B
N	LCD	3335 4592	LCD	LD-B8288A	1	B
N	24	5610 7620	HEAT SEAL A-L277	A313215-1	1	B
N	25	5610 7630	HEAT SEAL B-L277	A313216-1	1	B
N	26	6407 9310	PC JOINER A-L277	A414075-1	1	A
		The following electronic parts will be not supplied from CASIO.				
	R203		CHIP RESISTOR	MCR10EZHJ124	1	
	R202		CHIP RESISTOR	MCR10EZHJ334	1	
	R201		CHIP RESISTOR	MCR10EZHG105	1	
	VR201		CHIP VOLUME	MVR32HXBRN204	1	
	C201,C208		CHIP CONDENSER	MCH312F105ZP	8	
		ZX570-3 ASS'Y				
N	23	2803 7877	ELECTROLYTIC CAPACITOR	RE3-16V222M-T4	1	A
	TAPE2	2312 1099	PUSH SWITCH	ESE-103111	1	B
	TAPE1,TAPE3	3412 0917	PUSH SWITCH	ESE-105SV1	2	B
		The following electronic parts will be not supplied from CASIO.				
	C302		CHIP CONDENSER	MCH212F104ZK	1	
		CHASSIS ASS'Y				
N	23--1	6405 2700	GEAR B-L244	A312674-1	1	A
N	23--2	6405 2740	CLUTCH PLATE L244	A312770-1	1	C
N	23--3	6405 2720	WINDER TOP L244	A312763-1	1	C
	23--4	6400 9710	CLUTCH FELT L240	A412350-1	1	B
	23--5	6400 9720	SPRING WASHER L240	A412351-1	1	C
N	23--6	6400 9730	CLUTCH SPRING L240	A412352-1	1	C
N	23--7	6413 9802	HEAD ARM Z570	A211582-2	1	C
	23--8	6400 9750	CUT WASHER B-L240	A412353-2	1	C
	23--9	6400 9760	CUT WASHER C-L240	A412353-3	1	C
	23--10	6413 9951	HEAD SPRING A-Z570	A440427A-1	1	C
	23--11	6413 9960	HEAD SPRING B-Z570	A440428-1	1	C
N	23--12	6407 9170	SCISSORS SUB ASS'Y	A313223*1	1	B
N	23--13	6407 9260	SCISSORS SPRING L277	A414025-1	1	C
N	23--14	3122 2765	THERMAL HEAD	KSH256CM-CA	1	A
N	23--15	3222 0126	STEPPING MOTOR	STP-25NI48SVE	1	A
N	23--16	6407 9190	SWITCH LEVER L277	A313259-1	1	C
N	23--17	6407 9080	CUTTING KNOB L277	A211342-1	1	C
		The Parts prices will be informed separately by Parts Price List.				

Notes: N – New parts
Q – Quantity used per unit
R – Rank

R – A : Essential
B : Stock recommended
C : Others
X : No stock recommended

12. EXPLODED VIEW



MEMO

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